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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,962	06/09/2005	Martin Haubner	12810-00095-US	1386

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EXAMINER	
KATAKAM, SUDHAKAR	
ART UNIT	**PAPER NUMBER**
1621	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/537,962	HAUBNER ET AL.	
	Examiner	Art Unit	
	Sudhakar Katakam	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/9/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The examiner has considered applicant's Information Disclosure Statement of 06/09/2005. Please refer to the signed copies of the PTO-1449 forms attached herewith.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodama et. al. (EP 1 361 243 A1) in view of Weyer et. al. (US 5,395,959).

Instant claims are drawn to a process for preparing polyoxyalkylene glycol comprising copolymerizing tetrahydrofuran and alpha,omega-diols in presence of

heteropolyacid and a hydrocarbon. Polymerization is terminated by adding water when a molecular weight of from 1,000 to 2,800 is attained. The attainment of the molecular weight is determined by measuring the electrical conductivity of the copolymerization mixture.

Kodama et al teaches a method of preparing oxytetramethylene glycol copolymer by copolymerizing tetrahydrofuran and neopentyl glycol in presence of heteropolyacid catalyst [see claim 2]. This method further comprises a saturated hydrocarbon in the reaction mixture [see claim 5]. Kodama et al also teaches the preparation of oxytetramethylene glycol copolymer, which has a specific number average molecular weight from 800 to 5000 [see claim 1].

The difference between the instant application and Kodama et al is that the termination of polymerization reaction and measuring the electrical conductivity of the copoymerization mixture. Kodama et al disclosed the preparation of oxytetramethylene glycol copolymer, which has a specific number average molecular weight from 800 to 5000, but silent on method of determining the molecular weight and termination of polymerization reaction, whereas in the instant application the attainment of molecular weight is determined by measuring electrical conductivity of the copolymerization mixture and termination is achieved by adding water.

With regard to the termination of polymerization reaction and measuring the electrical conductivity, Weyer et al teaches a method for the heteropolyacid catalyzed polymerization of monomeric reactants to produce a polyoxyalkylene glycol in presence of proton donor or water [col.13, lines4-10 & col.14, lines 4-6]. Weyer el al also teaches

a process to produce a polymer having an average molecular weight of from about 500-3,500 dalton [col.14, lines 27-30], and this reaction system is regulated in the course of reaction by the measurement of the electrical conductivity, which means electrical conductivity is related to molecular weight of polymer.

In view of explicit teachings of Kodama et al and Weyer et al, the examiner purports that it would have been obvious to a person of ordinary skill in the art to combine these teachings to develop a simple and inexpensive process to prepare a polyoxyalkylene glycol with a reasonable expectation of success, since these are within the skill of artisan through a routine experimentation. It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the method of Weyer et al to control the molecular weight of copolymer in polymerization of Kodama et al. One of ordinary skill in the art at the time of the invention would have used this technique in order to control the molecular weight of the resulting polymer.

Some limitations of the dependent claims may not be expressly disclosed in Kodama et al and Weyer et al. However, these limitations appear to be drawn to tweaking the process conditions, particularly reaction electrical conductivity range for terminating the process. Changing such parameters is prima facie obvious because an ordinary artisan would be motivated to optimize a process. Merely modifying the process conditions such as temperature and concentration is not a patentable modification absent a showing of criticality. In re Aller, 220 F.2d 454, 105 U.S.P.Q. 233 (C.C.P.A. 1955).

Conclusion

5. Claims 1-11 are rejected.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhakar Katakam whose telephone number is 571-272-9929. The examiner can normally be reached on M-F 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SK

Sikarl A. Witherspoon

SIKARL A. WITHERSPOON
PRIMARY EXAMINER